Applied Management Consultants

151 Brunswick Street
Fredericton
New Brunswick
Canada
E3B 1G7
Telephone (506) 458-8370

A REVIEW OF AMBULANCE SERVICES IN NEW BRUNSWICK

Prepared For

Hon. J. Raymond Frenette

Minister of Health and Community Services

JOB NO. 1109

FEBRUARY, 1988

Division of Company #031172 N.B. Ltd

Applied Management Consultants

151 Brunswick Street
Fredericton
New Brunswick
Canada
E3B 1G7
Telephone (506) 458-8370

Ref: 20-1109

February 29, 1988

Hon. J. Raymond Frenette
Minister of Health and Community Services
Department of Health and Community Services
P.O. Box 510
Fredericton, N.B.
E3B 5G8

Dear Minister:

I am pleased to transmit our report on Ambulance Services in New Brunswick.

I would like to acknowledge the assistance and co-operation of the many organizations, providers and communities which contributed to our review.

I trust that our recommendations will help the Department of Health and Community Services to determine the future direction and priorities for pre-hospital emergency medical services.

Very truly yours,

Bryan Ferguson, CMC
Vice President

BF/sdm

SUMMARY OF RECOMMENDATIONS

Emergency Medical Services vs. Ambulance Services

1. Health and Community Services should rename the Department's Ambulance Services Branch as the Emergency Medical Services (EMS) Branch.

Legislation

2. The Department of Health and Community Services should introduce a new Emergency Medical Services Act to replace the present Ambulance Services Act, reflecting the concept of EMS as a medical program, specifying standards to be met for obtaining licenses and describing the limits of departmental responsibility.

Professionalism

3. The legislation should provide for a tiered licensing system for EMS personnel recognizing the special skills acquired at each level of training.

4. The legislation should provide for a 'grandfather' license to all trained attendants now in the system who are capable of passing a basic test, but who do not have EMA I or equivalent training. No attendants should be eligible for this type of license in the future.

Training

5. Health and Community Services should terminate its training contract with St. John Ambulance and transfer responsibility for training to the community colleges.

6. The current training budget should be converted to a training fund to assist services and individuals with defraying a portion of the costs of training.

Testing

7. The EMS Branch of Health and Community Services should develop a procedure to test the competence of newly-trained technicians and technicians requiring recertification.

Funding

8. Funding responsibilities will be at three levels:

   - Municipalities will, through tax revenues or other fund raising activities, subsidize operating costs where required

   - Patient charges, most of which will be reimbursable through third party insurance, and

   - Department of Health and Community Services will be responsible for funding a central office and for 'seed funding' of system improvements

9. The Department should terminate the vehicle grant program and reallocate these funds in the form of depreciation allowances to individual services to develop capital reserves for vehicle replacement.

10. All services should require user contributions through patient charges. The amount of the charge should be determined at the local level, but there should be increases to recover the true costs, particularly where third party recovery is applicable.

Licensing

11. The Department of Health and Community Services should license services with levels of licensing reflecting the level of service which the service is capable to provide under appropriate conditions and with the appropriately-trained personnel.

12. The Department of Health and Community Services should abandon the practice of designating common colour schemes and lettering on ambulances and allow individual services some freedom in the appearance of their vehicles, provided basic required information, logos and lighting are included.

13. The Department of Health and Community Services should continue annual vehicle inspections. Licenses should be issued for vehicles which pass inspections - others would not be permitted to operate.

Air Ambulance

14. The need for air ambulance services should be the subject of an in-depth review by the Department of Health and Community Services. The review should examine the option for developing a shared service, helicopter versus fixed-wing, the cost of properly equipped air ambulance service, the volume of potential users based on a detailed review of call reports and the impact on the present road ambulance system.

15. Funding for an air ambulance system, if implemented, should be the responsibility of the Department of Health and Community Services, with co-payment by the patient.

16. Funding should not be provided to an air ambulance without first ensuring that there is adequate financial support for developing the road-based EMS system.

Roles and Responsibilities

17. Regional EMS councils should be established in each health region, with representatives from municipalities, hospitals, ambulance providers, doctors and nurses in the region.

18. The new legislation must clearly and unambiguously state that responsibility for development, design, and improvement of the Province's EMS system is with the Department of Health and Community Services.

19. The Municipalities Act should be amended to clearly identify EMS as a municipal responsibility.

20. Service delivery should continue to consist of private, voluntary and hospital-based services.

Costs of Recommended Changes

The costs for implementing the system as we have recommended will amount to approximately $255,000 in start-up funding which will spread over the first two years of the program. The annual additional operating costs will amount to $627,000. Phase-in of this latter amount will probably require approximately 2 years. Thus, the total new funding for the program will amount to approximately $500,000 in year 1, $550,000 in year 2 and $627,000 annually there after.

The new revenues from patient charges have been conservatively estimated at $300,000. If higher charges are levied, the potential for saving is considerably greater.

A high proportion of the new costs for the improved service will be offset by these increases in revenue. However, the patient charges revenue will accrue to the municipalities and not the Department of Health and Community Services. Thus, for budget planning, the full amounts projected above will need to come from the Department of Health and Community Services.

TABLE OF CONTENTS

	PAGE
SUMMARY OF RECOMMENDATIONS	i
1. INTRODUCTION	1
1.1 Purpose of the Study	1
1.2 The Issues	2
1.3 Methodology and Approach	4
1.4 Organization of the Report	4
2. THE PRESENT SITUATION	6
2.1 Introduction	6
2.2 Legislation and Standards	8
2.3 The Current Delivery System	9
2.3.1 St. John Ambulance Volunteer Emergency Services	9
2.3.2 Private Ambulance Services	12
2.3.3 Hospital-Based Systems	12
2.3.4 Other Municipal Ambulance Services	13
2.3.5 Inter-Hospital Transfers	13
2.3.6 Industrial Ambulances	14
2.4 Training and Certification	14
2.5 Service Volumes	15
2.6 Ambulance Personnel	16
2.7 Financing	19
3. SERVICES ELSEWHERE	22
3.1 Type and Number of Services	22
3.2 Levels of Skills Recognized	23
3.3 Operational Funding	23
3.4 Vehicle Funding	24
3.5 Patient Charges	25
4. FINDINGS AND RECOMMENDATIONS	31
4.1 Emergency Medical Services vs. Ambulance Services	31
4.2 Legislation	33

Applied Management Consultants

PAGE

4.3 Professionalism 35
4.4 Training 36
4.5 Testing 40
4.6 Funding 41
4.6.1 Municipal Taxes 42
4.6.2 Department of Health and Community Services 46
4.6.3 Patient Charges 47
4.7 Licensing 51
4.7.1 Service Licensing 51
4.7.2 Vehicle Licensing 52
4.7.3 Medical Control 53
4.8 Air Ambulance 55
5. ROLES AND RESPONSIBILITIES 61
5.1 Regional Councils 61
5.2 System Development, Licensing, Standards 62
5.3 Funding 63
5.4 Delivery 64
5.5 Recommendations 64
6. ORGANIZATION AND PROGRAM COSTS 66
6.1 The EMS Branch 66
6.2 Regional Councils 66
6.3 Costs of Implementation 67

LIST OF EXHIBITS

EXHIBIT 2-1 - Location of Emergency Ambulance Services 10
EXHIBIT 2-2 - Location of Hospitals, Industrial Ambulances and Invalid Transport Services 11
EXHIBIT 2-3 - Emergency Services by Call Volume 17

Applied Management Consultants

PAGE

EXHIBIT 2-4 - Ambulance Personnel By Regions 18
EXHIBIT 2-5 - Services by Type by User Co-payment 21
EXHIBIT 3-1 - Design Features of Ambulance Services in Canada 26
EXHIBIT 6-1 - Costs to Implement EMS System Recommendations 68

APPENDIX A - List of Persons Consulted

Applied Management Consultants

1. INTRODUCTION

1.1 Purpose of the Study

This review of ambulance services has been undertaken at the request of the Department of Health and Community Services.

In a relatively short period of time, certainly within the last decade, the ambulance system has attained a status and profile as an integral part of the health system and, particularly, the delivery of emergency services. Following the lead of the United States, which has made rapid strides in emergency health services since the 1970's, the participants in Canada's health system have also focussed attention and resources on this area.

Ambulances are no longer seen simply as vehicles, but a means of outreach of the emergency department of the hospital to the roadside or home of the stricken.

The Department has decided that the provincial system should now be reviewed to determine its effectiveness and prepare a development plan for the future.

The specific terms of reference for the study assigned by the Department were:

1. To review the current design, financing and operational features of ambulance services in New Brunswick.

2. To identify key strengths and weaknesses in the current methods of ambulance operations.

1.1 (Cont'd)

3. To identify specific organizational and operational changes to improve the overall effectiveness and efficiency of ambulance services.

4. To identify options for achieving the needed changes and the main implications of each including funding requirements.

5. To recommend a desirable system for New Brunswick and a process for accomplishing the needed changes.

1.2 The Issues

From the outset, the study has focussed on several key policy and administrative issues. These issues are not new - some have been concerns for several years. Indeed, there have been a total of seventeen different studies and reports in New Brunswick since attention was focussed on the ambulance system at the beginning of the 1970's.

Seven issues have been at the centre of this review:

Training: Are the current training standards appropriate to the level of service desired? How available is training to those who want and need it? Should the present arrangements for examining those who take training be separated from the training process itself?

Roles and Responsibilities: There are many different organizations, providers and agencies involved in the system. Some have responsibilities for parts of the system, but no authority to implement. There are internal conflicts in roles which are holding back the development of emergency services as a viable, professional service.

1.2 (Cont'd)

Financing: Financing comes into the system from two government departments, individual municipalities, users and private insurers. The financial programs were designed to meet certain system goals which now must be questioned as to the ongoing need and justification. As well, the cause and effect relationship between the programs and the goals which they were designed to serve needs to be examined.

Standards: The Department has established standards for some components of the system and has made recommendations about others, but there is no mechanism to enforce any of the standards. The system must rely on voluntary compliance.

Legislation: Most of the existing legislation has not been enacted and there are concerns about the relevance and appropriateness of the current Act.

Licensing: Ambulance services are usually licensed in three main areas: vehicles, the service itself, and the individual attendant. The basic issue is how far the province should go in licensing these areas.

Air Ambulance: New Brunswick relies heavily on the Armed Forces to provide emergency airlifts. There is no provincial air ambulance service. Many health providers have been pushing for improved air transport arrangements, particularly from the north of the province.

Each of these issues has been addressed in some detail in the report.

1.3 Methodology and Approach

The main features of our approach included the following:

- interviews with all of the organizations with a stake in the ambulance services of the province. A list of the individuals and groups consulted is included in Appendix A.
- site visits to individual ambulance services, hospitals and municipalities.
- telephone calls to other provinces to obtain information about the organization and delivery of the ambulance services.
- reviews of existing data or individual services in the province, including number of calls, condition and number of vehicles, staffing and similar factual information.

We also met on two occasions with the Department's adhoc advisory committee to discuss issues, review our findings and conclusions and assess their impacts on the system and the organizations involved.

1.4 Organization of the Report

The report is organized as follows:

Chapters 1 to 3 constitute the background chapters of the report. These chapters describe the existing ambulance system (Chapter 2), and the key features of ambulance services in other provinces (Chapter 3).

Chapter 4 contains an analysis of our findings and recommendations.

1.4 (Cont'd)

Chapter 5 discusses the roles and responsibilities of government departments and municipalities in the emergency services of the future.

Chapter 6 presents an organization plan and cost estimate for the recommended changes.

2. THE PRESENT SITUATION

2.1 Introduction

Ambulance services have expanded, improved and developed considerably in New Brunswick in the last decade. It is a credit to the will and efforts of all the stakeholders that the services have developed as much as they have without standards or a system to guide the development. However, it appears to be evident to all stakeholders that ambulance services have reached the limit of their development within existing structures and further growth and improvement requires some changes.

A problem for policy makers interested in bringing about change is the general lack of any standard models which can be followed. Medicare and hospital insurance were designed as national programs with funding provided to provinces under common rules and guidelines. Ambulance services are not even mentioned in the Canada Health Act as being a provincial health responsibility. Consequently, each province has developed its own way of providing the service. Some, such as British Columbia, have taken the view that emergency services are a health responsibility and run the ambulance services like a public health service. In New Brunswick, it has generally been left to individual municipalities (or to the Department of Municipal Affairs and Environment in the case of unorganized municipalities) to ensure coverage for the province's citizens and to subsidize the service. The Department of Health and Community Services has taken the lead in the area of standards, training and providing funding for some services, particularly those which

2.1 (Cont'd)

are seen as integral to the departmental planning for hospital services. Thus, inter-hospital transfers are funded because transportation of this type is a necessary complement to the province's system of regional and tertiary hospital services. Municipalities have often expressed the desire to 'get out of the ambulance business', and have the service recognized as a health service, analogous to hospital insurance or medicare. This would transfer funding responsibility to the Department of Health and Community Services. Municipalities also see an inherent conflict in a situation where Health and Community Services is involved in setting standards which have financial implications for municipalities.

In a national health system where residents are used to equity of access to, and common policies concerning payment for, health services, the ambulance service is an anomaly: there are as many different ways of funding and charging clients in New Brunswick as there are ambulances services. When looked at as a health service, therefore, the current arrangement is not a clear-cut 'program' in the sense that we are used to conceptualizing medicare or hospital services.

There is therefore a very tempting (although we believe overly simplistic) argument to be made for designating ambulance services as a health service and effecting a complete transfer of authority, responsibility and funding to Health and Community Services. If the improvements needed in the system could result from this approach it would clearly be the ideal solution. However, as we will argue in this report, such a solution could well create more problems than it solves, and will not result in a better service to New Brunswickers.

2.2 Legislation and Standards

The Ambulance Services Act of 1981 governs the delivery of ambulance services in New Brunswick. It provides for extensive powers for the government to regulate training standards, license ambulance services, license vehicles, and ensure the provision of a quality service to residents of the Province.

However, almost none of the Act has ever been proclaimed. The only sections of the Act to have been proclaimed deal with the designation of the Minister of Health and Community Services as the responsible minister, and the appointment of a Director of Ambulance Services.

No standards have been enacted, nor has the responsibility been assigned for setting standards or enforcing compliance.

Annual inspections of each ambulance service are carried out by Ambulance Services staff. Staff check and document the condition of all vehicles, equipment and communications systems, review training certificates and collect data relating to numbers of services, kilometers travelled, and similar information. Although the annual inspections provide a good opportunity to communicate with individual ambulance services about areas where desired standards are not being met, Ambulance Services is powerless to enforce compliance or penalize services which are not adhering to provincial standards.

2.3 The Current Delivery System

There are a total of 104 ambulance services in the Province, involving 141 vehicles. The services break down as follows:

Emergency Services	
St. John Ambulance	32
Other Municipal Services	22
Private Firms	11
Hospital/Health Centre	10
Total Emergency Services	75
Other Services	
Invalid Transfers	18
Industrial Ambulances	11
TOTAL	104

A map presented in Exhibit 2-1 shows the location of emergency ambulance services in the Province by type. Exhibit 2-2 shows the location of invalid transfer services, industrial ambulances and hospitals.

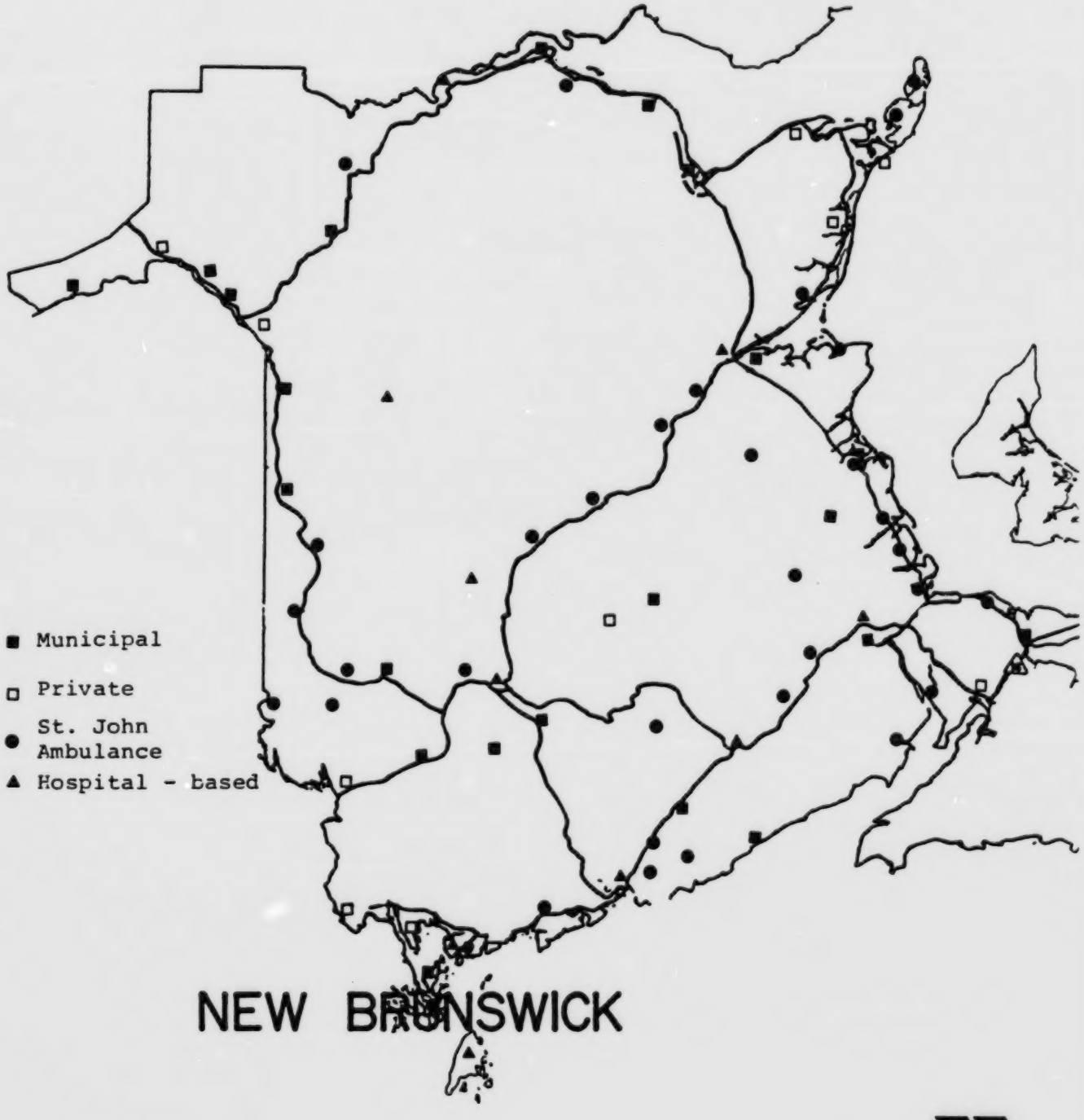
All emergency ambulance services are provided by municipalities directly or by arrangement with St. John Ambulance, private operators, or hospitals. Some of these arrangements involve formal contracts, others are more informal agreements.

2.3.1 St. John Ambulance Volunteer Emergency Services

Forming the largest single group of ambulance services in the Province, the St. John Ambulance

EXHIBIT 2-1

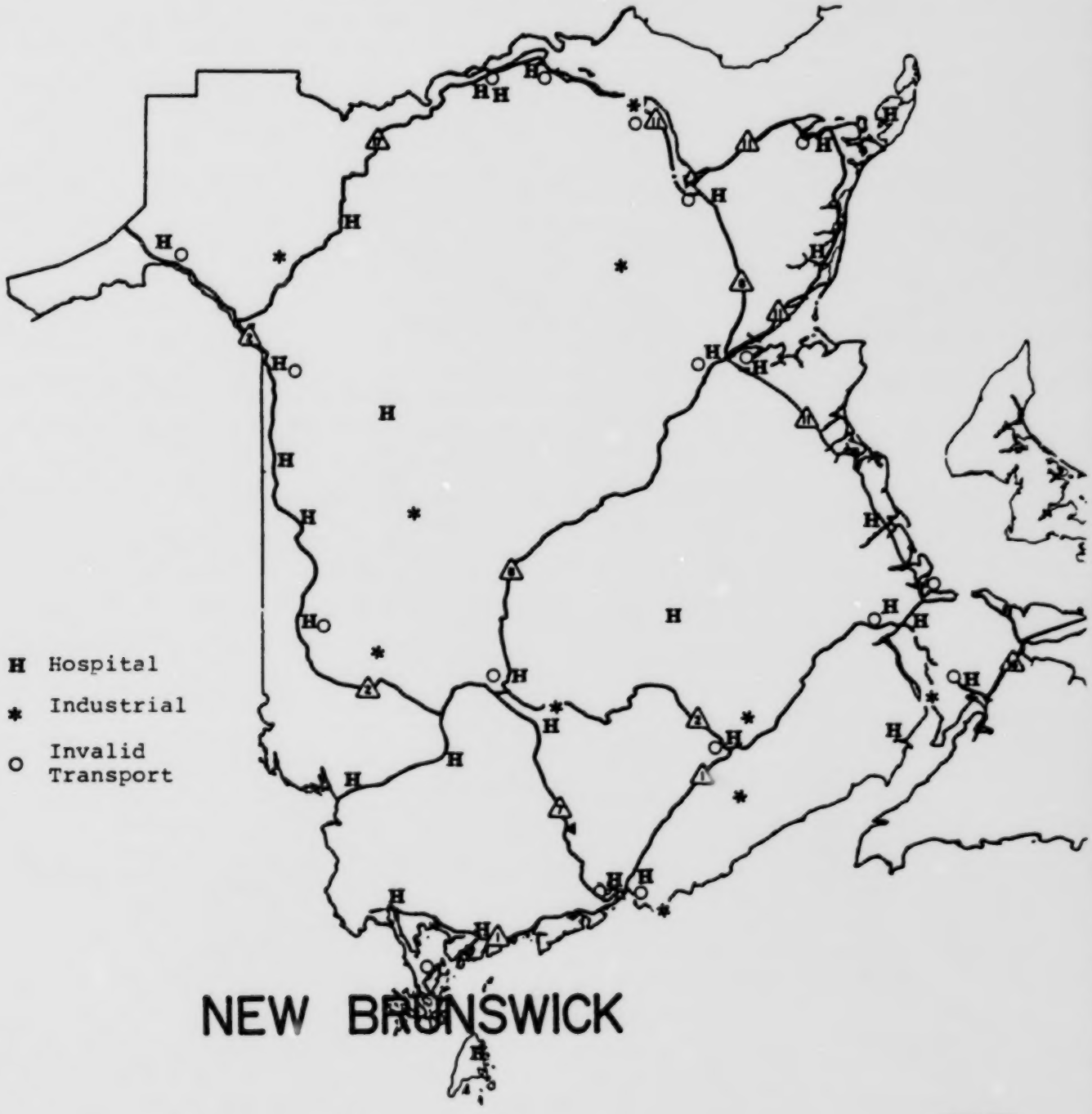
Location of Emergency Ambulance Services



Applied Management Consultants

EXHIBIT 2-2

Location of Hospitals, Industrial Ambulances and Invalid Transport Services



Applied Management Consultants

2.3.1 (Cont'd)

divisions operate primarily in rural areas. These voluntary services receive all their funding from the local community. Sources of funds vary, but typically will include local taxation or community fundraising, or a combination of the two. Every arrangement is different and the range of financing methods runs from 100% funding by local taxes to 100% funding through voluntary fundraising. As a matter of principle, St. John Ambulance volunteers do not charge users of the ambulance service. Volunteers do not accept any payments for their services.

2.3.2 Private Ambulance Services

This group of contractors is the third largest group in the Province. Private operators generally have contracts with one or more local municipalities to provide coverage to residents in a defined area. Most private operators receive some subsidy from the local municipality and raise the balance of the their revenue through patient charges. The form of the contract between municipalities and private operators varies from area to area and is generally the subject of annual negotiations.

2.3.3 Hospital-Based Systems

There are ten locations in the Province where the ambulance service is provided by the local hospital or health centre. These include the three urban

2.3.3 (Cont'd)

centres of Saint John, Moncton and Fredericton, as well as smaller towns. Hospitals which operate ambulance services generally use ambulance staff interchangeably with staff in the emergency department. When not on call, ambulance attendants typically help out as orderlies in the emergency room or in other parts of the hospital. These services are financed through patient charges, third party revenues and grants or subsidies from the city and the outlying municipalities.

2.3.4 Other Municipal Ambulance Services

The above three types of service account for 70% of the emergency services in the province. The remainder are provided in a variety of ways including municipal fire departments, 'paid volunteers' and voluntary services. All of these services levy patient charges and budget shortfalls are made up from local municipal taxation.

2.3.5 Inter-Hospital Transfers

Long distance inter-hospital transfers of medically necessary cases are transported by the emergency ambulance services. A program recently introduced by the Department of Health and Community Services pays the cost of all medically necessary inter-hospital transfers (less user co-payment). There is a patient charge of 50% of the bill or $50, whichever is less.

2.3.5 (Cont'd)

A service called 'invalid transport' is a special form of inter-hospital transfer. It relates to a special arrangement which existed up to 1987 between the Department of Health and Community Services and the St. John Ambulance. St. John Ambulance received annual funding to operate a fleet of vehicles, staffed by volunteers, for making scheduled transfers between hospitals, from hospital to nursing home or to the home following a hospital stay. In 1988, this arrangement has been changed to a fee-for-service payment basis.

2.3.6 Industrial Ambulances

Some private industries maintain ambulances as an emergency measure. These vehicles are usually located in more remote areas such as mine sites and logging operations. This class of ambulance also includes vehicles located at racetracks in Fredericton and Saint John.

2.4 Training and Certification

New Brunswick's ambulance system can be described as a basic life support system. Except in large urban areas, its ambulance services are trained to give basic first aid and to transport the patients safely and quickly to the physician.

All training is provided by St. John Ambulance who receive an annual training grant from the Department of Health and Community Services. Training is provided at no charge to the ambulance services receiving it.

2.4 (Cont'd)

The basic level of training required of ambulance attendants in the Province is the Ambulance I Course provided by St. John Ambulance. This is a first aid course involving 16 hours of classroom training. There has been some upgrading of qualifications in recent years and a number of attendants have been trained to the Ambulance II Level which involves 100 hours of training. While the proportions of attendants with Level II training who have valid certificates is not known for certain, it is estimated that approximately 15% maintain valid certificates and perhaps as many as 40% have had the training but have not kept their certificates current.

The Advisory Committee on Ambulance Services has recently recommended that the province should move toward higher minimum standards for ambulance attendants. The recommendation is to use the Canadian Medical Association's EMA I Course as the minimum standard for the province. This course is roughly equivalent to the St. John Ambulance Level II Course, although there is an additional requirement for in-hospital experience as well as more didactic training.

There is no licensing of attendants or any formal recognition of their skills and qualifications.

2.5 Service Volumes

The number of annual calls ranges from less than 100 for many of the small volunteer brigades to more than 6,000 in the case of the City of Saint John service, the province's largest. Twenty percent of the ambulance services provide 70% of the call volume.

2.5 (Cont'd)

Exhibit 2-3 shows the number of ambulance services by various ranges of call volumes. The two smaller bars on the right hand side of the graph represent the services with the highest volumes of calls - the larger bars on the left, services with low volumes.

2.6 Ambulance Personnel

As shown in Exhibit 2-4, there are approximately 2,000 ambulance personnel in the province.

Of these, 66 are full time attendants and 178 are part-time paid attendants. These salaried attendants represent about 12% of all the ambulance personnel but they handle 60 - 75% of the ambulance calls.

There is an inverse relationship between the call volume of a service and the personnel needed to operate it. Smaller services rely on volunteers and consequently require more personnel than the large services which can have smaller numbers of full-time staff. This inverse relationship means that the differences in the number of calls per person is even wider than the number of calls per service.

This has important implications for training and licensing as will be discussed later. However, the question to be addressed is whether it makes sense to set high minimum standards and spend training resources on large numbers of people who actually deliver few services rather than to encourage the few people who provide most of the services to aspire to qualifications well above the minimum.

EXHIBIT 2-3

Applied Management Consultants

EXHIBIT 2-4

AMBULANCE PERSONNEL BY REGIONS

REGION	FULL TIME PAID	PART TIME PAID	VOLUNTEER PAID	VOLUNTEER UNPAID	TOTAL
1	9	44	5	463	521
2	19	42	42	385	488
3	12	47	112	303	474
4	6	13	56	57	132
5	6	12	17	62	97
6	9	15	--	131	155
7	5	5	--	176	186
TOTAL:	66	178	232	1577	2053

Source: Ambulance Services Branch

Applied Management Consultants

2.7 Financing

Financing of the ambulance services derives from three main sources. The approximate amount of funding from each is estimated below[1]:

Municipal Taxes	3.0 million
Patient Charges	1.8 million
Health and Community Services	$2.0 million
Total	$6.8 million

In addition to the above is the unknown amount of funding from other sources such as fundraising, billings to third parties and the value of time and services donated by communities and volunteers.

The Department of Health and Community Services contributes approximately $1.2 million in direct subsidization of the ambulance services through Health Services, the inter-hospital transfer program, and grants to St. John Ambulance for invalid transport. The balance of Health and Community Services funding consists of:

Administration	$0.134 million
Training	0.325 million
Vehicle Grants	0.270 million
Radios	0.080 million

---

(1) The bases of these figures are:

- 1987/88 Budget of Health and Community Services
- 1984/85 Estimates of Municipal Taxes and Patient Charges from the office of Government Reform
  These were escalated to give current year estimates

2.7 (Cont'd)

There are as many different financial arrangements as there are ambulance services. Patient charges apply in some areas, while in others the residents have opted to pay for their ambulance totally services through municipal taxes and no charges are levied on users.

Most ambulance services make direct charges to patients as demonstrated in Exhibit 2-5. In about 25% of the cases (in services run by St. John Ambulance Volunteers), there are no patient charges levied.

EXHIBIT 2-5

Services by Type by User Co-payment

Emergency	Number	Number With Co-Payment	Approximate Number of Annual Calls
Private Services	11	11	6,400
Municipal Services	21	20	6,200
St. John Ambulance Services	33	0	4,000
Hospitals and Health Centres	10	10	16,500
TOTAL EMERGENCY	76	41	33,100
Invalid Transfers	18	0	3,000
TOTAL	94	41	36,100

Applied Management Consultants

3. SERVICES ELSEWHERE

As mentioned in the previous section, ambulance services have evolved in different ways in each of the provinces.

We examined the key design features of the ambulance services in each province and discussed the programs with respective officials.

The design features of each program are summarized in Exhibit 3-1, and the highlights are discussed below.

3.1 Type and Number of Services

New Brunswick is unique among the provinces in the high proportion of volunteer services to private or government operated services. Most other provinces have a larger for-profit component in their systems, or have a much higher ratio of services directly provided by the province. Provinces in the west tend to be more highly centralized and to provide services directly or control the development of services through commissions or government departments.

New Brunswick has 75 emergency ambulance services, or roughly 1.1 service per 10,000 population. Given differences in concentration of population, this is similar to the situation in other Atlantic Provinces. Nova Scotia, for example has .7 services per 10,000 population and Newfoundland has 1.1.

3.2 Levels of Skills Recognized

Provinces have not adopted a common standard of skill levels. The general trend in Canada is to increase the number of highly trained emergency medical technicians, and to adopt the system and skill levels identified by the CMA as the provincial standard. This standard is used only in British Columbia at the present time. The provinces of Prince Edward Island, Newfoundland and Nova Scotia recognize only one level of skill - a basic medical technician.

New Brunswick's skill levels are concentrated at what would be considered basic levels in most of the province.

The larger provinces are moving toward more advanced life support training. Quebec is in the process of implementing an advanced skills program requiring 1,200 hours of course and training. Ontario has experimented with paramedic services and has a program in place to introduce paramedic services into more communities over the next five years. Only Ontario, British Columbia and Alberta now recognize paramedics.

Four provinces, British Columbia, Alberta, Saskatchewan and Newfoundland have courses which have been accredited by the CMA.

3.3 Operational Funding

Six provinces have a form of mixed financing for ambulance services involving the health department and municipal affairs. In some provinces, such as Newfoundland, the health department pays on a fee-for-service basis for all

3.3 (Cont'd)

ambulance trips. These payments do not necessarily cover the full costs of the services and subsidies from municipalities, service clubs and other organizations are used to cover the operating deficits.

In British Columbia, Ontario, Nova Scotia and P.E.I., the health departments are the only agencies providing funding for ambulances. In the case of British Columbia, the service is actually run by the government.

Newfoundland, Nova Scotia, P.E.I. and Quebec have a fixed formula for funding services based on flat fees and mileage charges. New Brunswick, Manitoba and Alberta have no fixed formulas as the local municipalities are responsible for funding services. (It must be noted, however, that all provinces provide some form of coverage for seniors and social services recipients under various types of programs.)

Quebec has indicated that it will soon be moving to a new system which will substantially reduce the number of ambulance districts and fund them through fixed budgets similar to those provided to hospitals.

3.4 Vehicle Funding

In the provinces of Newfoundland, Nova Scotia and P.E.I., ambulance services receive annual grants for vehicle replacement based on utilization, or fixed annual amounts. None of the provinces has an ambulance grant system like New Brunswick's where decisions are made on a case by case basis. Newfoundland assists its voluntary services (but not the hospital or private services) by paying 50% of the costs of replacing vehicles.

3.5 Patient Charges

Eight of the ten provinces have standardized patient charges for all users. The charges are based on mileage or fixed rate formulae. Only New Brunswick and Manitoba have no standard policy on patient charges. In Manitoba, patients are charged for all ambulance calls. New Brunswick appears to be unique in Canada in having some services (those run by St. John Ambulance volunteers) where users are not assessed some portion of the costs of the service.

EXHIBIT 3-1

DESIGN FEATURES OF AMBULANCE SERVICES IN CANADA

1. MIX OF SERVICES

New Brunswick	St. John Ambulance	32
	Municipal	22
	Private	11
	Hospital	10
	Invalid Transfers	18
	Industrial	11
		104
Newfoundland	Hospital	12
	Community (23 Volunteer)	28
	Private	25
		65
Nova Scotia	Private	52
	Hospital	2
	Volunteer	6
		60
Prince Edward Island	Private	6
Quebec	(Approximately)	
	Private	161
	Municipal	9
	Other	6
Ontario	Volunteer Squads	33
	Private	68
	Municipal	5
	Hospital	64
	Government Operated	9
		179
Manitoba	Fire Department	8
	Municipal	13
	Private	9
	Volunteers (paid)	72
	Hospital	45
		147
Alberta	Approximately 104 1/3 Volunteers, 1/3 Private, 1/3 Municipal	
British Columbia	374 Ambulances in 183 Communities All operated by the Province.	

Applied Management Consultants

Exhibit 3-1 (Cont'd)

2. OPERATIONAL FINANCING BY PROVINCIAL GOVERNMENT

New Brunswick	- Municipal responsibility. Municipalities pay operators grants or subsidies to pay costs not covered by patient charges - Department of Health and Community Services pays for all training and for inter-hospital transfers, services to seniors and social services recipients on a fee-for-service basis
Newfoundland	- Fee for service by Department of Health to operators other than hospitals - Included in hospital budgets for hospital-based services
Nova Scotia	- Fee for service by Department of Health to operators
Prince Edward Island	- Fee for service by Department of Health
Quebec	- For non-hospital based services, basic grant depending on number of vehicles, plus fee for service to operator, usually paid by hospital (for transfers and cases other than auto accidents or third-party - W.C.B., D.V.A., etc.) - For hospital-based, included in hospital's operatiang budget - Larger municipalities provide operating subsidies to their contractors
Ontario	- The Emergency Health Services Division of the Department of Health funds the full cost of services

Exhibit 3-1 (Cont'd)

2. (Cont'd)

Manitoba	- Funded by municipalities as in New Brunswick. Health Services Commission pays per capita grants to each municipality for ambulance services. Costs for transfers, when inside a 24 hour period are paid by the Commmission via hospital budget
Alberta	- Funded by municipalities as in New Brunswick. Department pays for seniors, social assistance, etc.
British Columbia	- Fully funded by the Emergency Health Services Commission

3. VEHICLE PURCHASE ASSISTANCE BY PROVINCIAL GOVERNMENT

New Brunswick	- Ambulance purchase grants, allocated to services on the basis of need as determined by Ambulance Services
Newfoundland	- Flat rate annual grant to private services of $9,000 per vehicle - Pay 50% of vehicle replacement for voluntary services
Prince Edward Island	- Incorporated into fee
Nova Scotia	- Annual grant
Quebec	- Incorporated into fee
Ontario	- Purchased by Province
Manitoba	- No specific assistance
Saskatchewan	- Part of grant to ambulance boards
Alberta	- No assistance
British Columbia	- Purchased by Province

Exhibit 3-1 (Cont'd)

4. PATIENT CHARGES

New Brunswick	Varies by municipality
Newfoundland	<80 km - $35.00 >80 km - $45.00
Nova Scotia	<160 km - $40.00 >160 km - $60.00
Prince Edward Island	$75.00 per trip
Quebec	$75.00 plus $1.75 per km
Ontario	$22.00 if motor vehicle accident
Manitoba	Varies by municipality
Alberta	Basic $85.00 + $1.63 per km Advanced Life Support $138.00 + $1.63 per km
British Columbia	$28.00 plus $0.29 per km to maximum of $135.00

4. FINDINGS AND RECOMMENDATIONS

4.1 Emergency Medical Services vs. Ambulance Services

During our interviews, we heard generally favourable comments about the ambulance service, particularly from the general public. There is not a strong public demand for improved services. Indeed, several times we heard the comment - 'if it works all right now, why not leave it alone?'

Experienced and knowledgeable individuals, however, express strong concerns about the fact that the services are only basic and that fundamental changes are now needed. For example, the New Brunswick Medical Society has gone on record as calling for major upgrading of the skills of ambulance personnel. Developments elsewhere have shown that improved emergency services can lead to more lives saved through earlier and effective intervention.

New Brunswick has not kept up with trends in pre-hospital emergency services in North America. The service has improved steadily since a concentrated effort was made in the seventies, and is probably as advanced as any in Atlantic Canada. However, other provinces in Canada are moving toward the provision of more advanced life support in a medically-centred system. This movement is largely fueled by an increased interest on the part of the CMA and provincial medical associations to extend their services in trauma care to the community and the advances in emergency medical services in the United States.

In deciding how best to structure its approach to ambulance services, the province must anticipate future trends, and set goals which relate to the system needs of the future.

4.1 (Cont'd)

As a first step, it is important to begin thinking of ambulance services as the pre-hospital treatment component of an Emergency Medical Service (EMS). This takes the system beyond a transportation system to a medical service emphasizing reduction in death and disability from medical conditions and accidents.

To be successful, intervention must be decisive, thorough, prompt, skilled, unified, and aggressive enough to accomplish the work of stabilization. That means that, although many professionals and technicians may play an essential part in the intervention, at its center, the emergency medical service must be controlled by physicians. The broad task in an EMS system is to locate the patient and to provide a single, unified pre-planned course of care which begins in the field and carries through to the point where the patient is stabilized - most probably in the hospital. It must be designed from the center outward as a means to deliver medical care as rapidly as conditions permit. That is not to say that every intervention must involve sending out services to patients. It is often the case that the most appropriate action is simply quick transportation of a victim to hospital for treatment. The primary design aim is to minimize the time to stabilizing care.

In a complex system with many different people involved, the coordination of the service and the development of standards are the most critical factors and issues of funding or delivery of the service are less important. The key is to have in place a mechanism to set standards of performance and ensure compliance with the standards and an organization to take a strong lead role in developing an integrated and professional service.

4.1 (Cont'd)

Small services may never develop to the level which has been described, and the rate at which services achieve these levels will not be uniform. But the system should encourage a rapid progression toward these ideals while ensuring that all residents have access to basic, competent levels of emergency care and transportation.

As a recognition of this vision of the future direction for the system, we make the following recommendation:

Recommendation 1: Health and Community Services should rename the Department's Ambulance Services Branch as the Emergency Medical Services (EMS) Branch.

4.2 Legislation

There must be legislation in place which enables the Department of Health and Community Services to set and enforce standards. In the present situation, government is a toothless tiger and the consumer has no protection or guarantees of a service which meets at least minimal standards of quality.

Without effective legislation, it is not possible to take any leadership in developing emergency health services in the Province. Ambulance attendants can now take as little or as much training as they want and nothing, other than the policies of the individual operator or volunteer crew, prevents untrained or incompetent attendants from responding to calls. The public has no assurance that the attendants responding to a call have even a minimal level of training.

4.2 (Cont'd)

A simple solution is to proclaim the rest of the existing Act. However, the Act as it is presently written, does not reflect the reality of either the present system, or the type of services which will be needed by EMS in the future.

The Ambulance Act is based on a model in which:

- the Province would be divided into districts
- a single provider would be chosen for each district
- the provider would operate an ambulance system within that district, on behalf of the Province
- the Province would actually become a service provider.

It sets system goals which cannot be defined and are probably not practical. For example the Act requires 'the development throughout the Province of a balanced and integrated system of ambulance services'. It is ideal to have all services as good as they can be, but if 'balanced' is taken to mean 'equal' then this is not a realistic objective given the distribution of population and services.

Recommendation 2: The Department of Health and Community Services should introduce a new Emergency Medical Services Act to replace the present Ambulance Services Act, reflecting the concept of pre-hospital EMS as a medical program, specifying standards to be met for obtaining licenses and describing the limits of departmental responsibility.

4.3 Professionalism

Pre-hospital EMS care in New Brunswick must become far more professional. The lack of licensing and professional recognition of the skills of people working in the system is a major impediment to development.

Becoming more professional does not mean people must be paid to provide services. In its root meaning, 'professional' refers to a person who is willing to say, in public, that he or she has a skill and is ready to be judged by the quality of his or her performance. An attitude of professionalism stands in contrast to an 'amateur' attitude: the person who loves the work, but who makes no particular claims for the quality of his performance.

Professionalism is not found in everyone who is paid to do a task, and it is often found in people who are not paid. It is our judgment that New Brunswick can gain substantially by fostering professionalism among all who deliver emergency medical care. Moreover, it should foster professionalism among all components of the present system, rather than by putting the system in the hands of a new group of people.

As rapidly as possible, the Department should establish several levels of licensure for its pre-hospital EMS services. The lowest level should be seen in such a way that anyone who is now recognized as providing acceptable care will qualify for it. The next higher level should be the Canadian Medical Association's EMA-I. It is our view that an effort to raise the minimum standards for

4.3 (Cont'd)

participation in the EMS system is necessary, but premature: rather, the emphasis should be on raising the maximum standard, encouraging those within the system to seek higher standards than they have now, and supporting them through licensure which recognizes the higher standards of care they provide. When seeking growth, it is better to raise the ceiling than to raise the floor. As a sense of attainment arises, based on demonstrated competence, it will be time enough to re-examine what should be done about the less competent.

Recommendation 3: The legislation should provide for a tiered licensing system for EMS personnel recognizing the special skills acquired at each level of training.

Recommendation 4: The legislation should provide for a 'grandfather' license to all trained attendants now in the system who are capable of providing basic care, but who do not have EMA I or equivalent training. No attendants should be eligible for this type of license in the future.

4.4 Training

The motivation in ambulance attendant training system has been to give training away. The question becomes, "How much can we afford to give away?" And the answer is, inevitably, not very much.

It is difficult to see what advantage this system brings to patients, to the province, or to the people who work in EMS. By giving the training away, the Province limits the available training, because other training providers cannot

4.4 (Cont'd)

compete with a free service. The predictable result is the one we find: training is minimal, expensive to the province, and scarce.

Training is usually given on site - that is, at the base of the ambulance service. In small communities, neighbouring services may band together to provide sufficient numbers for a course. St. John Ambulance Association employs five full-time trainers who give the only ambulance attendant courses which are offered in the Province. These five trainers must cover all 104 services in the province, spread over a large geographical territory. Large amounts of travel are involved for the trainers as most courses are given in the evenings over several weeks. There is always a waiting list for courses, and St. John Ambulance claims that it is not possible to do any of the refresher retraining necessary to maintain certification with the existing manpower.

The Department does not have data on the number of ambulance attendants trained, but experience in other jurisdictions has shown that 20 - 25% of ambulance personnel turn over in a year. Thus, approximately 400 attendants must be trained annually to maintain staffing levels. Of these, perhaps a maximum of 50 will be trained to Level II and the balance will receive basic Level I training. This represents a total of 13,400 hours of training per year. Assuming an average class size of 10 students, the total instructor hours required is 1,340. Even doubling this to allow for travel and preparation time, it is costing the Department $120 per instructor hour for training, or $800 per person trained.

4.4 (Cont'd)

This is an expensive and inefficient way to train EMS personnel. Alternatives should be readily available at considerably lower cost.

For example, having people in most areas of the province who are prepared to teach on a part-time basis when there is demand is a much more efficient approach to providing training than attempting to use central trainers travelling throughout the province.

Community colleges regularly provide training and education at the local level using this type of approach. They also provide all the health-related training programs in the province.

A rapid expansion in the amount of training available is absolutely critical to achieving growth in the system.

This expansion in the training program cannot be achieved with the present arrangement with St. John Ambulance, even if given additional funding to hire more trainers. A decentralized, community-based approach is needed and the only organization which has the extent of infrastructure and networks to provide this approach is Advanced Education and Training.

The Department of Health and Community Services should therefore discuss with Advanced Education and Training ways to get community colleges to develop more EMS trainers and to offer courses through the college system around the province. Funding now used to purchase training from St. John Ambulance should be redirected to be more accessible by individuals and services. It should be set up as a training fund for this purpose. The training fund should

4.4 (Cont'd)

be redistributed to ambulance services on the basis of a formula incorporating the number of personnel and their current training level. Every service should be required to submit an annual training plan and annual report to the Department as a condition of receiving funds for training. Additional funding will need to be provided in the first two years of the program to enable community colleges to purchase equipment and to train enough instructors.

The training fund should not be expected to cover the full cost of EMS training. Individual services and/or the EMS technicians receiving the training should also bear some portion of the cost.

St. John Ambulance could continue to play a role as a training agency, under contract to the community colleges.

This approach, it must be emphasized, is not intended to change the basic approach of providing training in the community where the service is located. At some future date, it may be advisable to establish an institutionally-based course for advanced life support training as the demand for EMA II and higher qualifications increases, but the establishment of such a course should not change the basic on-site method of training for most EMS services.

Recommendation 5: Health and Community Services should terminate its training contract with St. John Ambulance and transfer responsibility for training to the community colleges.

4.4 (Cont'd)

Recommendation 6: The current training budget should be converted to a training fund to assist services and individuals with defraying a portion of the costs of training.

4.5 Testing

Ensuring that people have learned and can apply what they were taught requires an objective, independent testing system. At present, the St. John Ambulance instructor arranges for course graduates to be tested by a local doctor. Frequently, the doctor is not available and testing is done by the instructor. As there is no standard protocol for testing, graduates are examined in whatever way the testing doctor feels is appropriate.

Once the number of instructors is expanded by the community colleges, testing becomes even more important as a screening device to ensure competence. The testing function is a means of controlling the quality of the training as well as an assurance of competency. If those who have paid for training find themselves unable to pass objective examinations they will soon act to weed out any incompetent instructors.

There are three possible options for organizing a testing system:

- The EMS Branch could assume the responsibility for developing and applying these and providing attendants with a certificate on successful passing of the test.

4.5 (Cont'd)

- The community colleges could organize the testing system. There would need to be safeguards to ensure that anyone teaching the course is not involved in testing his or her students.

- The testing protocols would be centrally developed by either of these agencies, but testing itself could be conducted by EMS professionals in a region.

All three of these options could meet the basic requirements. In the short term, probably the only real option is for the Department to set up and operate a testing system independently of the community colleges. Ultimately, testing can be passed over to regional groups of technicians for administration.

Recommendation 7: The EMS Branch should develop a procedure to test the competence of newly-trained technicians and technicians requiring recertification.

4.6 Funding

Financing for the system comes from three main sources:

- Municipal taxes
- Patient charges
- Department of Health and Community Services

4.6.1 Municipal Taxes

Municipalities fully pay the cost of services where provided by St. John Ambulance volunteers and subsidize services which cannot cover the costs of their operations through patient charges or fees paid by the Department of Health and Community Services.

Financing the EMS system is a role which many municipalities would like to abandon. They argue that EMS is a health service and therefore funding should be the responsibility of the Department of Health and Community Services in the same way that Medicare and hospital services are funded. These municipalities view EMS more as a health service than as an emergency service such as police or fire protection, even though in the smaller municipalities it is the same group of volunteers that provide fire and ambulance protection. The opposite view is taken by some municipalities which are proud of the improvements they have been able to make through their own initiatives and the relationship which has been built up between the ambulance service and the municipal administration, a relationship which would disappear under a more centrally-funded system. Small municipalities also fear that central funding will mean elimination of some of the low-volume services.

4.6.1 (Cont'd)

We have developed three possible options for funding which could potentially work in the New Brunswick context:

Option 1: Department of Health and Community Service would assume the responsibility for providing funding for each ambulance service. Municipal tax funding would terminate and the present funding be transferred to Health and Community Services. Each ambulance service would negotiate its annual budget with the Department, or be reimbursed on a fee-for-service basis, or some combination of these mechanisms. This would be similar to the Nova Scotia model, where rates are negotiated annually between the Department and the Ambulance Operators Association.

Option 2: Develop a hospital-based ambulance system. In this option, hospitals would serve as the basic delivery unit, responsible for operating the service with funding provided by the Department through the hospital's annual budget. Voluntary services would be maintained in areas without hospitals, but these would probably operate under some form of contract to the nearest community hospital.

4.6.1 (Cont'd)

Option 3: Maintain the current system of funding with some changes to ensure more third-party revenue is collected.

Organizationally, both Options 1 and 2 are appealing because they have the effect of making emergency services a true 'program', with a clearly responsible lead agency having involvement extending from program design to funding and delivery. The necessity for municipalities to be involved would be eliminated.

Both these options would reduce the municipal taxes of residents now paying for ambulance service through their property taxes and spread the burden evenly across the province.

The major advantage of Option 2 over Option 1 is the linkage which is forged between the hospitals and the EMS.

However, Option 2 could ultimately be a costly approach as it will inevitably lead to replacing volunteers with paid staff in most services, and replacing voluntary services with paid hospital staff.

With fixed budgets from a central source, both Options 1 and 2 could tend to slow down initiatives to upgrade the skills and competence of local services. Development would depend on the available provincial funds.

4.6.1 (Cont'd)

Even if, in the short term, most voluntary services were to stay in operation, the local incentives for fundraising or volunteering will decrease and the Department will be burdened with the cost of filling these gaps.

Depending also on policies for patient charges, the Department could find itself required to fund an increasingly widening gap between revenue and costs, particularly if charges were held constant as costs increased.

The most compelling disadvantage of both Options 1 and 2 in our view is the fact that the Department would immediately be required to find between $2 million and $6 million (depending on the option chosen and the policy on patient charges) without any qualitative improvements in the system. A much higher priority in our view is raising smaller amounts of new money to apply to improving the system, rather than making major organizational changes which do not improve the quality of services.

A second and important disadvantage of Options 1 or 2 is the fact that some of the existing services would probably disappear or not continue in their present form. This would be resisted strongly by many communities who wish to keep and recognize voluntary efforts and the good basic service they have been providing.

4.6.2 Department of Health and Community Services

The Department's responsibility for funding of EMS should be in four main areas:

- Funding of a central office to administer the standards, license operators, vehicles and technicians, maintain statistics and reports and lead the development of an improved, professional system

- Funding the inter-hospital transfer program on a fee-for-service basis

- Providing funding to develop educational programs and assist individuals to obtain training

- Providing operational grants to regional ambulance committees (to be discussed later).

The Department should terminate its present practice of providing vehicle grants. This program was necessary when the province was attempting to rapidly upgrade the quality of vehicles in the province and did significantly contribute to major improvements in the vehicles in New Brunswick. Now, however, the grant program is actually counter-productive. Several of the present ambulance services are very small and tie up vehicles which could be used elsewhere in the system. The vehicle grant program makes it too easy for new services to go into business. It would now

4.6.2 (Cont'd)

appear to be time to rethink the approach of this program. The ambulance grants should be converted to a depreciation allowance and divided among all ambulance services on the basis of a depreciation formula incorporating the age and utilization of the vehicle. The main objective should be to make the local community responsible for funding and replacing its vehicles, and to provide some assistance in doing so. If communities cannot raise enough money to replace their vehicles, they are probably too small to begin with.

4.6.3 Patient Charges

Regardless of the funding option chosen for EMS in the future, more effort should be made to increase third-party revenue.

Policies concerning charges to patients differ from community to community. Many of the smaller services pay the full cost with no charge to the consumer. In these cases, and in cases where the charge is well below the cost of service, the EMS system loses substantial amounts of potential revenue. Most charges to patients are recoverable from third parties (insurance companies, DVA, Health Services, etc.). It is estimated by the Canadian Life and Health Insurance Association that 80% of New Brunswickers have medical coverage which would pay for ambulance services. All automobile owners are obliged to carry insurance for injury to others.

4.6.3 (Cont'd)

We have estimated the foregone revenue to the EMS system at between $500,000 (with a nominal minimum charge of $30) and $1.2 million (with a patient charge of $75).

The St. John Ambulance consider any kind of charge to patients to be contrary to their policy of volunteerism.

However, the other side of this policy is that because those who receive emergency care receive it as charity, they should have no financial, political, or quality-control responsibility for what they receive. As an institutional arrangement, the policy has important negative consequences: it limits available care, not to what New Brunswick citizens need, or want, or could have, but to what volunteers are willing to give away. At the same time, since it prevents the accumulation of adequate capital within the EMS system, it handicaps the future development of more advanced care. Finally, because recipients of charity are not really expected to insist on the quality of what they are given, the policy short-circuits a legitimate social concern that medical services be of high quality.

St. John Ambulance needs to give serious thought to the financial impact of its 'no charge' policy and develop a way to permit patient charges. The potential revenue which can be of significant

4.6.3 (Cont'd)

benefit to the whole system is simply too great to ignore as is the ability to use funds for improvements at the local level for the benefit of the community.

The main beneficiaries of a 'free' service are the insurance companies and the Department of Health and Community services since the Department does not receive a bill for many services which would be eligible for Departmental payment. The consumers ultimately are the losers since they pay more through municipal taxes than necessary, or, alternatively, do not receive the higher quality service which could be financed with the additional third-party revenue.

A standard, province-wide patient charge for all residents had been offered as an alternative to the existing systems. This is the practice followed in most of the provinces. This solution has the obvious appeal of appearing to be fair to everyone because it is the same for everyone. On the other hand, each community finances the service in a way which is appropriate to the local conditions and the patient charge is part of the decision on the best approach for the area.

Another possibility is to set <u>minimum</u> charges for all EMS users. Local municipalities would be able to charge any additional amount provided to minimum charged.

4.6.3 (Cont'd)

Both options result in heightening the conflict between two worthwhile principles: the principle that everyone should bear a fair share of the cost of EMS; and the principle that municipalities should have the greatest latitude to choose how they will pay for essential services. To the extent that these principles brought into conflict, the local preferences for funding are more important than the extra revenue raised.

Recommendation 8: Funding responsibilities will be at three levels:

- Municipalities will, through tax revenues or other fund raising activities, subsidize operating costs where required

- Patient charges, most of which will be reimbursable through third party insurance

- Department of Health and Community Services will be responsible for funding a central office and for 'seed funding' of system improvements, and paying for insured services.

Recommendation 9: The Department should terminate the vehicle grant program and reallocate these funds in the form of depreciation allowances to individual services to develop capital reserves for vehicle replacement.

4.6.3 (Cont'd)

Recommendation 10: All services should require user contributions through patient charges. The amount of the charge should be determined at the local level, but they should be close to the costs of the service, particularly where third party recovery is applicable.

4.7 Licensing

Four areas of licensing are important in building up pre-hospital EMS. We have already discussed the licensing of EMS personnel. The other three areas include:

- Licensing EMS services
- Licensing vehicles
- Licensing hospital personnel to give medical control.

4.7.1 Service Licensing

Services are licensed for two reasons. First, it is a convenient way to insure that medical control is provided to the technicians. Second, it is reasonable for the Province to impose standards on the operation of services, particularly where the services offer advanced life support.

For a service to obtain a license, it should be required to show that it is able to provide the level of care for which it is licensed. It should be able to show that it has equipment adequate for the licensed level of care. It should show that it has enough equipped vehicles and trained personnel

4.7.1 (Cont'd)

to meet the patient load of the area it serves. And it should be required to obtain the agreement of physicians who will act as medical controls when advance life support procedures are being used.

4.7.2 Vehicle Licensing

At present, the Province requires that ambulances look alike and that they meet rather rigid purchasing specifications. This means that the Province sets what amounts to a ceiling on the quality of ambulances in use. Because it purchases the vehicles or provides grants to cover a portion of the purchase price, and is not willing to have its money wasted, the Province limits the entire system to minimal, basic life support ambulances.

It is reasonable for the Province to set minimum standards of strength, working space, equipment, cleanliness, freedom from carbon monoxide invasion, lighting, radios, and sirens for ambulances. If the Province gets out of the business of subsidizing purchase of ambulances, however, it is probably no longer sensible to also identify the suppliers or limit services which want to use more advanced equipment than the basic requirement.

This report recommends, consistently, that the Province encourage the development of EMS above the minimum level. A part of that policy should be to allow people to show that they meet more than minimum standards. That means allowing providers to paint their ambulances in distinctive ways, provided

4.7.2 (Cont'd)

that they are easily recognizable as ambulances and emergency vehicles. Providers who offer advanced life support should be encouraged to say so on their vehicles.

Ambulances should be individually licensed. They should be required to meet minimum standards when purchased, and should be held to their original standards so long as they are operated by the service which purchased them in the first place. If an ambulance is sold, it should be held to the standards in place at the time of its sale, if it is to continue in use as an ambulance.

The Department should inspect, as it does now, each ambulance at least once a year, to make sure that it is safe, clean, and equipped adequately for the level of service it provides.

4.7.3 Medical Control

When a physician gives medical orders over the radio, it is essential to know that the technician on the other end of the line understands the observations to be made, the interventions to be used, and the rules under which they are to be employed.

From the point of view of the patient and the technician, it is equally important that the physician understand:

- The protocols under which the technician operates.

4.7.3 (Cont'd)

- The patient-physician relationship during pre-hospital EMS care.

- The conditions of documentation the technician must meet, and the responsibility he has to the physician.

These conditions are easier met than the others, because the physician population is more stable and more appropriately organized than the pre-hospital part of the EMS system. However, it is appropriate to require that physicians who undertake to give medical direction be trained in the matters just listed, and in simple matters of radio procedure, understanding of EMS organization, and understanding the training which the field personnel have received.

In practice, medical orders are very often given over the air by nurses. If a nurse does give these orders, he or she should meet at least the conditions which would be expected of a physician in such circumstances. Because the nurse speaks as an agent for the physician, it may be necessary to institute a more formal delegation relationship between the nurse and the physician.

As well, there will need to be proper provisions made for liability insurance coverage to ensure that doctors providing medical control are protected in situations where EMS personnel are negligent in carrying out procedures while under medical control. This protection should be included in the new EMS legislation.

4.7.3 (Cont'd)

Recommendation 11: The Department of Health and Community Services should license services with levels of licensing reflecting the level of service which the service is capable to provide under appropriate conditions and with the appropriately-trained personnel.

Recommendation 12: The Department of Health and Community Services should abandon the practice of designating common colour schemes and lettering on ambulances and allow individual services some freedom in the appearance of their vehicles, provided basic required information, logos and lighting are included.

Recommendation 13: The Department of Health and Community Services should continue annual vehicle inspections. Licenses should be issued for vehicles which pass inspections - others would not be permitted to operate.

4.8 Air Ambulance

An air ambulance to serve the province has been recommended by several groups, notably the New Brunswick Medical Society and communities in the north who are remote from advanced trauma and tertiary referral services.

Although emergency airlifts provided by the Department of National Defence's Air Search and Rescue Service in Summerside, P.E.I., are acknowledged to be effective

4.8 (Cont'd)

in most major emergency situations, there are two problems affecting transportation for patients from the north:

- the slow response time and unavailability in certain situations, and

- the lack of any means of air transport for non-emergency cases. This is particularly serious in northern New Brunswick where patients face road transfers of five hours or more to facilities in Saint John, Halifax or Quebec.

In addition to the services provided by Air Search and Rescue, the province uses the Quebec Evacuation Aeromedical service for emergency evacuation of patients from the north to hospitals in Quebec. On average, there are 15 to 20 air evacuations per year provided by this service, for which the province pays approximately $1,500 per call. Air Search and Rescue has carried out an average of 60 emergency calls per year at no cost to the province.

While it was not within our terms of reference to undertake a detailed cost analysis or feasibility study of an air ambulance service, we have made an estimate of the potential volume of air ambulance services, assuming that such a service would provide both emergency and scheduled transport. In the case of scheduled transport, air services are considered as an alternative for trips of four hours or more.

4.8 (Cont'd)

We assumed first that probably only one-half of the serious emergency cases requiring air evacuation are being handled by the present service. We also assumed that one-third of the inter-hospital road transfers from communities in the north for other types of patients would be over four hours in duration, as would all out-of-province transfers from communities north of Highway 8. A detailed review of call reports would be required to determine the validity of this assumption.

Based on these assumptions and assuming further that the air ambulance provides all airlifts now provided by Air Search and Rescue, the potential annual service volume would be as follows:

Emergency evacuations	120
Inter-hospital transfers	280
Total	400 calls per year

This estimate is close to the volume projected in a recent proposal to the Department of Health and Community Services from Air Bras d'Or.

Ontario has approximately 13,000 air ambulance calls per year. Scaling for differences in population size, this is roughly three times the volume estimated for New Brunswick, which would appear reasonable, given the greater distances from major centres from Ontario and the number of remote communities.

Air Bras d'Or estimated that a round-the-clock service staffed by pilots and attendants would cost approximately $750,000 per year to operate. This amounts to $1,900 per trip, on the basis of 400 trips.

4.8 (Cont'd)

A four-hour (one-way) road ambulance trip would typically cost approximately $500 if provided by a private service. The cost would be somewhat less for the St. John Ambulance invalid transport service. The Province is thus currently paying approximately $200,000 for services which would be replaced by air ambulances under the scenario we described and the federal government is spending an unknown amount (probably in the order of $200,000) for its airlifts.

Our terms of reference did not include an in-depth analysis of the options for an air ambulance, but it would seem from this rather simple analysis that the ambulance service would not require an aircraft exclusively dedicated to this service, as daily volume would probably amount to 1 or 2 calls per day. It might be feasible, for example, to:

- Contract with a private carrier who has other uses for an aircraft as well as ambulance services, or

- Consider a multi-function airplane shared with other government users (e.g., Highway Patrol, Natural Resources), or

- Provide air ambulance services to Nova Scotia and P.E.I. to increase volume. (This was discussed but rejected by the two provinces at one time.)

In any of these options, there would need to be a clear understanding that emergency ambulance calls have the first priority for the aircraft, and that even if used for another purpose, that use would terminate and the emergency would be responded to.

4.8 (Cont'd)

While a provincially funded air ambulance would have many benefits, there would also be negative impacts :

- an air ambulance service could serve as a alternative to improving referral services based in the north. If cases are transported out of the region, there are fewer incentives to provide the same service locally.

- the effect on potential revenue for road ambulances. Several services rely on long-distance transportation for revenue to offset the losses resulting from providing an emergency service. If the revenue potential is removed because patients are transported by air ambulance, the money is not available to road ambulance operators who then must seek even greater subsidies from municipal sources.

We cannot make a strong recommendation for or against the advisability of an air ambulance service based on our limited information. A recommendation would require a more thorough study of the call reports, analysis of the options for multi-purpose use, good costings based on the most appropriate system and a study of the impact of reduced revenues on existing road ambulances. However, appeals for improved services and the discomfort of patients during a four-to-six hour transfer by road suggest that the issue needs to be considered further.

We would hope, nevertheless, that an air ambulance service would not be funded at the expense of the badly needed improvements to EMS services. Air ambulance should be considered an add-on, complementary service to a good EMS system. It will not replace any of the necessary components of the EMS system we have recommended.

4.8 (Cont'd)

Consequently, with regard to air ambulances, we recommend:

Recommendation 14: The need for air ambulance services should be the subject of in-depth review by the Department of Health and Community Services. The review should examine the option for developing a shared service, helicopter versus fixed-wing, the cost of properly equipped air ambulance service, the volume of potential users based on a detailed review of call reports and the impact on the present road ambulance system and the development of referral services in the north.

Recommendation 15: Funding for an air ambulance system, if implemented, should be the responsibility of the Department of Health and Community Services, with a charge to the patient, which is large enough to discourage any misuse of the airplane.

Recommendation 16: Funding should not be provided to an air ambulance without first ensuring that there is adequate financial support for the road-based pre-hospital EMS system.

5. ROLES AND RESPONSIBILITIES

The recommendations of the previous section will require some changes to the roles and responsibilities of the government departments involved. Mostly, however, what is needed is a clear definition of the extent of responsibility through new legislation.

5.1 Regional Councils

In addition to the existing organizations involved in EMS, we are proposing that the Department of Health and Community Services move to establish Regional Ambulance Councils in all seven health regions.

The role of the Regional Councils would be to improve communications, establish local support for EMS and lead the development and co-ordination of local medical control as EMS increases its activity in using advanced life support in pre-hospital care.

Regional Councils will be a necessary mechanism to develop and implement systems of regional medical control.

Regional Councils would be responsible for:

- promoting co-operation between hospitals and EMS services
- lobbying for improved EMS care in the region
- determining standard procedures and protocols to be followed by technicians with advanced life support qualifications

5.1 (Cont'd)

- developing systems of regional medical control and designating responsible physicians

- identifying training needs and arranging through community colleges for training to be provided

- advising municipalities and other users on matters relating to contracting and funding of ambulance services

- developing a regional dispatch system for ambulances, particularly during evenings, weekends and holidays

- running testing programs for technicians in the region

The Regional Councils should have representatives from municipalities, hospitals, ambulance operators, doctors and nurses from the region. In the U.S., where EMS has progressed much more rapidly in the area of advanced life support, these regional organizations have become the mechanism for providing effective medical control and ensuring there is good communication and understanding of protocol among physicians and technicians who may not otherwise have the opportunity to interact.

5.2 System Development, Licensing, Standards

The development of EMS, the setting and enforcement of standards and the liaison with the key components of the health system (hospitals, doctors, nurses, etc.) is a role best suited to the Department of Health and Community Services. The only other options would likely be:

1) Municipal Affairs and Environment who have delivery and some funding responsibilities now, but who really are not equipped to deal with the health system, or

5.2 (Cont'd)

2) Some form of independent body similar to the Police Commission. This approach has some benefits such as independence but would probably lack the clout to make other things happen within the health system the way the Department with a Minister in Cabinet could do.

The legislation must clearly make the Department of Health and Community Services the lead agency for EMS in the province, with authority to set standards, enforce compliance, issue and revoke licenses and examine the competence of providers. The Department must also have clear responsibility for evaluation and monitoring of EMS, collecting the necessary data and maintaining records on licenses, test results and similar documents.

5.3 Funding

Having said the Department of Health and Community Services should be responsible for standards and developing the emergency medical services, it does not necessarily follow that the Department should automatically take responsibility for all the other elements of the system such as funding and delivery. In some provinces this has been done. In British Columbia the Health Department does everything, including delivering the service. In other provinces, the line is drawn at funding with delivery being provided by contractors, volunteers and others. In New Brunswick, Health and Community Services are already providing a considerable portion of the funding for services through the inter-hospital transfer program, and training.

5.3 (Cont'd)

Funding should remain a shared responsibility of municipalities, users and the Department of Health and Community Services. Municipalities should continue to finance any short-falls necessary to keep a service in operation, to contract with suppliers for the provision of services or to use municipal staff.

This responsibility should be made clear through an amendment to the Municipalities Act, to recognize the EMS as a protection service responsibility of municipalities.

5.4 Delivery

The third area of responsibility concerns service delivery and ensuring coverage to all residents. Consistent with our other recommendation about EMS, local communities should make their own arrangements for providing or purchasing service and that these arrangements could involve paid services, volunteers, contractors, hospitals or any other means which the local community prefers. We reject any involvement of the Department of Health and Community Services in direct delivery as being disruptive of the good system now in place and ultimately, much more expensive, and we believe that all types of services can co-exist in the system.

5.5 Recommendations

Recommendation 17: Regional EMS councils should be established in each health region, with representatives from municipalities, hospitals, ambulance providers, doctors and nurses in the region.

5.5 (Cont'd)

Recommendation 18: The new legislation must clearly and unambiguously state that responsibility for development, design, and improvement of the Province's EMS system is with the Department of Health and Community Services.

Recommendation 19: The Municipalities Act should be amended to clearly identify EMS as a municipal responsibility.

Recommendation 20: Service delivery should continue to consist of private, voluntary and hospital-based services.

6. ORGANIZATION AND PROGRAM COSTS

6.1 The EMS Branch

Provincial responsibility for the system should include five areas: regulation, planning and development, record keeping, communications, and education. The Province should support strongly the medical aspects of the program by insuring that its EMS Division has energetic physician participation.

The EMS Division should include at least the following full-time persons: a director, with major responsibility for developing a coherent plan for improved capability in the system; two standards offices, responsible for inspections, standards enforcement and liaison with individual services and Regional Councils. The office should have the half-time support of a physician, whose responsibilities would include overseeing the medical quality of the service, promoting physician participation in local medical control, promoting physician education in EMS, and advocacy for the pre-hospital EMS system. The office will need three full-time support staff: a secretary, a licensing clerk, and a data-support clerk. Additional part-time help may be needed to develop systems for record-keeping relating to licenses.

6.2 Regional Councils

The Province should encourage the development of an active regional EMS structure, to oversee the medical aspects of the EMS as it advances to more involvement in life support activities.

6.2 (Cont'd)

The regional structure should be sensitive to development and training needs within its area. For that reason, it should make provision for participation by providers, physicians, nurses, and municipal government.

The regional structure should provide support to the EMS providers in the region. In practice, this means that the region should maintain an office and a staff person. The staff person should be responsible to the regional entity, not to the Province.

The Province has an interest in seeing this structure survive and prosper, but the providers in the region, the local physicians, and the hospitals have an even greater interest in it. Hence, the Province should supply some financial support to this structure, but should expect local support as well.

Regional councils should be set up in all seven health regions. The four largest regions should be staffed by a full-time regional coordinator and the three smaller regions with half-time support.

6.3 Costs of Implementation

Many of the recommendations in this report can be implemented without additional system costs. However, implementing some of the changes will require additional funding.

In summary form in Exhibit 6-1, we show the cost implications of the recommendations. Some will be one-time, up front costs, others will be annual recurring costs.

Exhibit 6-1

COSTS TO IMPLEMENT EMS SYSTEM RECOMMENDATIONS

	One-time	Recurring
1. Additional EMS Division Staff		
Medical Consultant (Half-time)		$ 40,000
Standards Officer		30,000
Licensing Clerk		18,000
Data Clerk		18,000
Benefits and Overhead (@ 20%)		21,200
Subtotal		127,200
2. Travel and Accommodation for EMS Staff		10,000
3. Regional EMS Services (4 x 50,000) (3 x 25,000)		275,000
- Payment for medical control physician		70,000
4. Training		
Employment of Qualified Instructor	$ 50,000	
- Expenses	10,000	
- Benefits	5,000	
- Equipment and Supplies ($20,000/site x 7 sites)	140,000	
- Overhead ($10,000/college)		70,000
- Training Co-ordinator (+ overhead)		40,000
5. Testing Program		
- Design and Pilot	50,000	
- Annual Testing ($5,000/region x 7 regions)		35,000
TOTALS	$255,000	$627,200

Applied Management Consultants

6.3 (Cont'd)

The areas where additional funding will be needed will be:

- The addition of new staff to the EMS Division to maintain a licensing system, engage a medical consultant for the program, and an additional standards officer.

- The funding of regional councils. Although we show this as a recurring cost, in practice, it will probably take several years to set up a province-wide network of councils, and the costs in earlier years will be less than shown.

- Costs under Medicare for payment of doctors providing medical control. The Department of Health and Community Services anticipates that doctors providing medical control will expect to be reimbursed for this activity. We have notionally allocated $10,000 per region for this activity.

- Transferring the responsibility for training delivery to community colleges. During transition this will involve overlapping responsibilities for a transitional period. It will be important to keep a training system in place while the community colleges prepare to take over responsibility. It will also involve equipment purchases by colleges in each region, and a full-time co-ordinator for the program.

We see this period as an opportunity for community colleges to engage a highly qualified EMS instructor capable of providing training to potential instructors. We have based our estimates on a one-year phase-in period with funding for the instructor plus travel expenses and equipment for seven regional training sites.

6.3 (Cont'd)

During this one year period, St. John Ambulance will continue it training contract with the Department.

The costs for implementing the system as we have recommended will amount to approximately $255,000 in start-up funding which will spread over the first two years of the program. The annual additional operating costs will amount to $627,000. Phase-in of this latter amount will probably require approximately 2 years. Thus, the total new funding for the program will amount to approximately $500,000 in year 1, $550,000 in year 2 and $627,000 annually there after.

The new revenues from patient charges have been conservatively estimated at $300,000. If higher charges are levied, the potential for saving is considerably greater.

A high proportion of the new costs for the improved service will be offset by these increases in revenue. However, the patient charges revenue will accrue to the municipalities and not the Department of Health and Community Services. Thus, in planning its future budget, the full amounts projected above will need to come from the Department of Health and Community Services budget.

APPENDIX A

LIST OF PERSONS CONTACTED

Applied Management Consultants

LIST OF PERSONS CONSULTED

NOTE: Members of the Ad-hoc Advisory Committee are indicated thus - *

1. ASSOCIATIONS/ORGANIZATIONS

Mr. David Balmain
Dr. Peter Fraser
* Dr. Jane Finlater
* Dr. Wayne McLaughlin
New Brunswick Medical Society

Ms. Lucille Auffrey
Executive Director
* Ms. Jean Stickles
Nurses Association of New Brunswick

Mr. Michel Poirier
Mr. Randy Brown
Mr. Neil Ritchie
*Mr. Lloyd Secord
*Ms. Therese Ballard
*Mr. Louis Benoit
New Brunswick Hospital Association

Mrs. Alexandra Harrison
Director, Educational Services
Mrs. Margaret M. Dukes
Coordinator, Allied Medical Education Accreditation
Canadian Medical Association

Councillor Norman Crossman
Mayor Emil Olsen
Councillor Claire Wilt
Mayor Steven Hawkes
Mayor Malcolm Barry
Councillor Valmond Martin
Mr. Henry LeBlanc
Standing Committee on Protective Services
Provincial-Municipal Council

*Mr. Ronald Chisholm
*Mr. Henry LeBlanc
*Mr. Bill Gillen
Ms. Shirley Jennings
St. John Ambulance
New Brunswick Council

*Mr. Joe Noel
*Mr. Jeffrey Holmes
*Mrs. Carmel Doiron
New Brunswick Ambulance Operators Association

2. GOVERNMENT - New Brunswick

Department of Health and Community Services

*Mr. Alban Martin
Director
Ambulance Services Division

*Mr. Robert Gamble
Assistant Deputy Minister
Insured Health Benefits Division

*Mr. James Carter
Assistant Deputy Minister
Institutional Services Division

*Mr. William M. Allwood
Assistant Deputy Minister
Administration Division

*Dr. H.W. Wyile
Assistant Deputy Minister
Chief of Medical Division

Mr. Guy Hebert
Administrative Assistant and Ambulance Inspector

Department of Municipal Affairs and Environment

*Mr. Gary Mersereau
Finance Officer

New Brunswick Highway Patrol

Mr. Gilles Belley
Chief

Mr. Jack Ivey
Deputy Chief

Mr. George Reid
Policing Services

R.C.M.P.

SSgt A. Hadley

3. OTHER PROVINCIAL GOVERNMENTS

Newfoundland

Mr. Jim Janes
Director Provincial Ambulance Services

Nova Scotia

Mr. H.A. Pederson
Executive Assistant to the Deputy Minister of Health

Prince Edward Island

R. Thelma Cameron
Director Hospital Standards and Administration

Quebec

Mr. Claude Savard
M. Marc Chouinard
Mesures d'Urgence et Transport Ambulancier

Ontario

Mr. Malcolm Bates
Emergency Health Services Division

Manitoba

Ms. Lila Bell
Emergency Health and Ambulance Services

Saskatchewan

Mr. Ron Simmons
Director Ambulance Services

Alberta

Mr. Bill Tudge
Director Standards Evaluation and Ambulance Services

British Columbia

Mr. Bill High
Emergency Health Services Commission

4. OTHERS

Mr. & Mrs. Knight
Cambridge Narrows Ambulance Service

Fire Chief Morrison
Deputy Fire Chief Davidson
Oromocto Ambulance Service

Mr. Henry Daamen
Minto Ambulance Service Ltd.

Mr. Roy McKinnon
Dr. Everett Chalmers Hospital

Mr. Murray Bishop
Village of Chipman Ambulance Service

Mr. Dan Donald
Eastwind Planes
Moncton

Councillor Bill Cooper
City of Fredericton